

ABSTRACT

An automatic testing technique generates test distribution report indicating the internal test diversity of a software program under test; a new measure used in assessing and improving the quality of testing. A set of source files, chosen for diversity analysis, is minimally parsed and minimally instrumented. The program under test containing these instrumented files is then typically executed multiple times with test inputs. For each execution, the instrumented code collects test distribution data. Based on the distribution data, a report is generated indicating internal condition, data, and path diversity of the program under test.